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Patent Claims

1 A method for fabricating a barrier layer having the following steps:

- 5 (a) oxidation of a substrate (1) composed of silicon in order to produce a substrate oxide (2) on the surface of the substrate (1);
- (b) production of an oxygen-impervious layer (4) at the interface between the substrate oxide layer (2) and the substrate (1), the oxygen-impervious layer (4), as barrier, preventing the formation of metal silicide compounds between applied metal and the substrate silicon;
- 10 (c) etching of the substrate oxide layer (2) until the underlying oxygen-impervious layer (4) is uncovered.
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2. The method as claimed in claim 1, characterized

- 20 in that the oxygen-impervious layer (4) is produced by implanting nitrogen ions into the substrate (1), the substrate (1) subsequently being oxidized in such a way that a substrate oxide layer (2) and an oxygen-impervious layer (4), which comprises a substrate-nitrogen compound, are formed.

25 3. The method as claimed in claim 1, characterized

- in that the oxygen-impervious layer (4) is produced by the substrate oxide (2) produced on the surface of the substrate (1) being exposed to a nitrogen-rich gas in such a way that an oxygen-impervious layer (4), which comprises a substrate-nitrogen compound, forms at the interface (3) between the substrate oxide (2) and the substrate (1).
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35 4. The method as claimed in claim 3, characterized

- in that the substrate oxide (2) is exposed to an N₂ gas, an N₂O gas, an NO gas or an NH₃.

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5. The method as claimed in one of the preceding claims,
characterized
5 in that the substrate-nitrogen compound comprises silicon nitride.
6. The method as claimed in one of the preceding claims 1 to 4,
10 characterized
in that the substrate-nitrogen compound comprises silicon oxynitride.
7. The method as claimed in one of the preceding
15 claims,
characterized
in that the substrate oxide layer is etched in a wet-chemical etching process or in a dry etching process.

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